

What is claimed is:

1. A gas discharge panel substrate assembly comprising: electrodes
formed on a substrate, a dielectric layer covering the electrodes, and a
5 protective layer covering the dielectric layer and in contact with a
discharge space, wherein the protective layer includes MgO and at least
one compound selected from the group consisting of an Al compound, a
Ti compound, a Y compound, a Zn compound, a Zr compound, a Ta
compound and SiC.
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2. A gas discharge panel substrate assembly of claim 1, wherein
the protective layer comprises a layer which does not transmit light
having a wavelength of 200 nm or less.
- 15 3. A gas discharge panel substrate assembly of claim 1, wherein
said at least one compound selected from the group consisting of an Al
compound, a Ti compound, a Y compound, a Zn compound, a Zr
compound, a Ta compound and SiC is a compound having a bandgap of
6.2 eV or less.
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4. A gas discharge panel substrate assembly of claim 1, wherein
the dielectric layer contains a low-melting glass or CVD-SiO₂.
5. A gas discharge panel substrate assembly comprising: electrodes
25 formed on a substrate, a dielectric layer covering the electrodes, an

- intermediate layer covering the dielectric layer, and a protective layer covering the intermediate layer and in contact with a discharge space, wherein the protective layer includes MgO and the intermediate layer includes at least one compound selected from the group consisting of
- 5 an Al compound, a Ti compound, a Y compound, a Zn compound, a Zr compound, a Ta compound and SiC.
6. A gas discharge panel substrate assembly of claim 5, wherein said at least one compound selected from the group consisting of an Al
- 10 compound, a Ti compound, a Y compound, a Zn compound, a Zr compound, a Ta compound and SiC is a compound having a bandgap of 6.2 eV or less.
7. A gas discharge panel substrate assembly of claim 5, wherein
- 15 the intermediate layer comprises a layer which does not transmit light having a wavelength of 200 nm or less.
8. A gas discharge panel substrate assembly of claim 5, wherein the dielectric layer contains a low-melting glass or CVD-SiO₂.
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9. A production method for a gas discharge panel substrate assembly, wherein the dielectric layer as disclosed in claim 1 is formed with one of a CVD method, a plasma CVD method and a method in which a frit glass in the shape of a sheet is adhered on a substrate,
- 25 followed by baking.

10. A production method for a gas discharge panel substrate assembly, wherein the dielectric layer as disclosed in claim 5 is formed with one of a CVD method, a plasma CVD method and a method in
5 which a frit glass in the shape of a sheet is adhered on a substrate, followed by baking.
11. A production method for a gas discharge panel substrate assembly, wherein the intermediate layer as disclosed in claim 5 is
10 formed with one of a vacuum evaporation method, a CVD method, a plasma CVD method, a sol-gel method and a binder method.
12. A production method for a gas discharge panel substrate assembly, wherein the intermediate layer and the dielectric layer as
15 disclosed in claim 5 are continuously formed with a CVD method or a plasma CVD method.
13. A production method for a gas discharge panel substrate assembly, wherein the intermediate layer and the protective layer as
20 disclosed in claim 5 are continuously formed with a vacuum evaporation method.
14. An AC type gas discharge panel using the gas discharge panel substrate assembly as disclosed in claim 1 as a gas discharge panel
25 substrate assembly in the front side.

15. An AC type gas discharge panel using the gas discharge panel substrate assembly as disclosed in claim 5 as a gas discharge panel substrate assembly in the front side.

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